

Summary

This report describes the sexually transmitted disease burden in King County. Primary emphasis is placed on chlamydia and gonorrhea since they are the most frequently reported STDs in Washington State. The 1999 incidence rates by age and sex for gonorrhea and chlamydia are presented.

The report concludes with a presentation of which providers in your county reported STDs.

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King County STD Disease Trends

Table 1: Washington State Reportable Sexually Transmitted Diseases, King County, 1999

Disease	1998 King County Cases	1999 King County Cases	1999 King County Rate ^λ (per 100,000)	1999 Washington State Rate ^λ (per 100,000)
Chlamydia	3,486	3,949	233	208
Gonorrhea	975	922	54	37
Early Syphilis	41	71	4.2	1.6
Congenital Syphilis	0	0	-	0.0(live births)
Late/Late Latent Syphilis	28	51	30	1.4
PID (Acute)**	110	117	33(female)	10(female)
Herpes (initial infection)	651	664	39	34
NGU**	788	648	77(male)	37(male)
GI/LGV/Chancroid**	0	0	-	0.0
AIDS cases**	151	233		
TOTAL (excluding AIDS cases)	6,079	6,422	378	306

^λ Denominator estimates for the calculation of incidence rates from the population estimates, 1990-2002 Population Estimates and Projections: Department of Social and Health Services, Washington State Adjusted Population Estimates, April 1999.

* Rates cannot be calculated for years with fewer than five cases

** See Appendix A for explanation of disease acronyms.

In 1999, King county experienced an increase from 1998 in its combined STD morbidity rate. With 6,422 new cases of STDs (excluding AIDS cases ¹) in 1999, the incidence rate for all STDs was 378 per 100,000 persons. This is 24% greater than the 306 per 100,000 combined STD rate for Washington State. King county reported no cases of congenital syphilis or GI/LGV/ Chancroid in 1999.

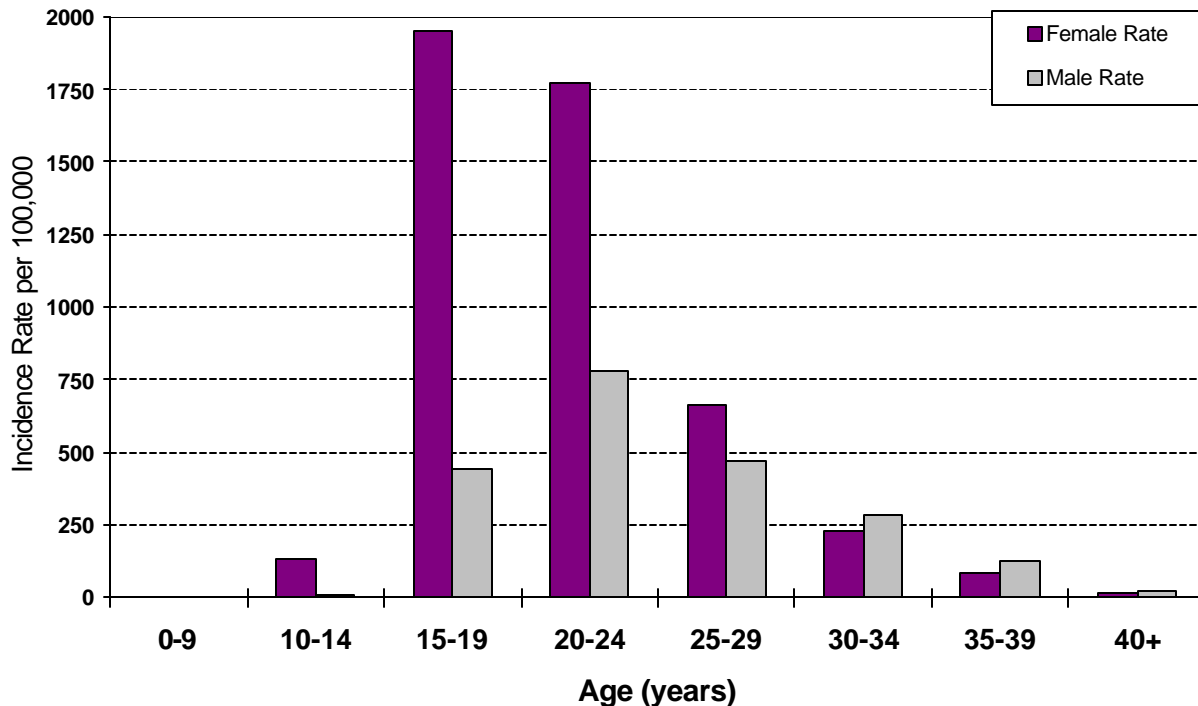
1999 compared to 1998:

- Chlamydia had a 13% increase in reported cases (3,949 vs. 3,486).
- Gonorrhea had a 5% decrease in reported cases (922 vs. 975).
- Early syphilis had a 73% increase in reported cases (71 vs. 41).
- Late/late latent syphilis had a 82% increase in reported cases (51 vs. 28).
- Acute PID had a 6% increase in reported cases (117 vs. 110).
- Initial infection herpes had a 2% increase in reported cases (664 vs. 651).
- NGU had a 18% decrease in reported cases (648 vs. 788).

¹ Complete information on the HIV/AIDS epidemic in Washington can be found in [Washington State HIV/AIDS Epidemiologic Profile - 1999](#), Washington State Department of Health, Office of IDRH, Assessment Unit.

Chlamydia

FIGURE 1: Chlamydia Incidence Rates by Age and Gender, King County, 1999^λ



Female Rate	*	135	1,949	1,770	660	231	85	17
Male Rate	0	10	443	777	469	282	122	24
Female Cases	3	77	1,048	837	367	150	68	66
Male Cases	0	6	246	373	274	191	100	85

^λ Denominator estimates for the calculation of incidence rates from the population estimates, 1990-2002 Population Estimates and Projections: Department of Social and Health Services, Washington State Adjusted Population Estimates, April 1999.

Incidence rates rounded to the nearest whole number.

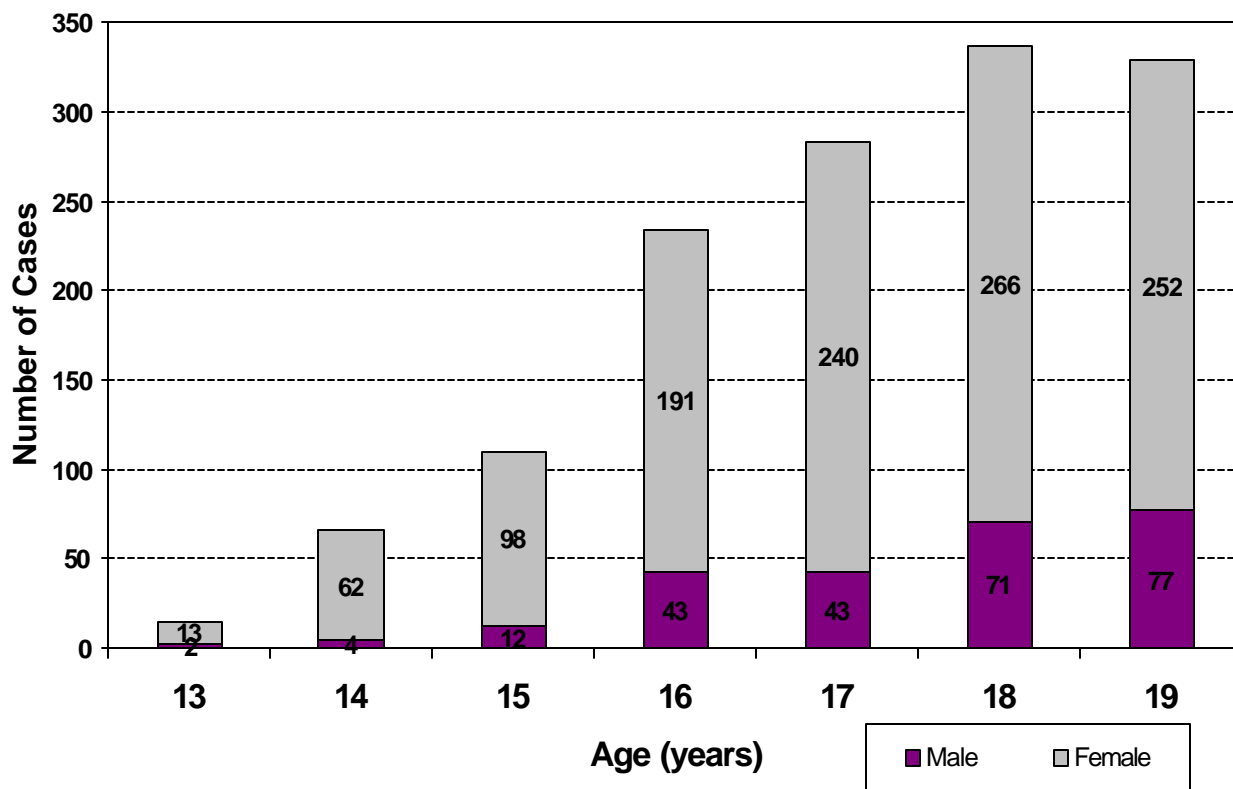
* Rates cannot be calculated for ages with fewer than five cases.

In 1999, the female chlamydia incidence rate peaked among the 15-19 year old age group, at 1,949 cases per 100,000. After this peak, chlamydia incidence among females progressively declined with increasing age. Among men, the 1999 chlamydia incidence rate peaked among 20-24 year olds at 777 cases per 100,000.

Only women are routinely screened for chlamydia. Because active case-finding is preferentially limited to women, the incidence of chlamydia in men may be under-reported by comparison. Caution should be used in interpreting comparisons of chlamydia rates between genders.

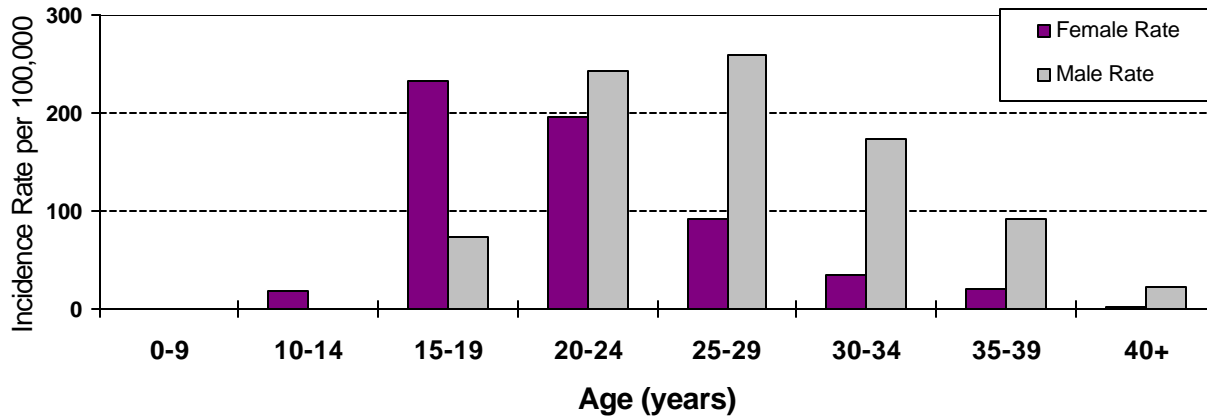
KING COUNTY

TEEN (13-19) CHLAMYDIA CASES -1999



Gonorrhea

FIGURE 3 BAR CHART : Gonorrhea Incidence Rates by Age and Sex, King County, 1999^λ



Female Rate	0	19	233	195	92	35	20	2
Male Rate	0	*	74	242	259	173	92	23
Female Cases	0	11	125	92	51	23	16	9
Male Cases	0	2	41	116	151	117	75	81

^λ Denominator estimates for the calculation of incidence rates from the population estimates, 1990-2002 Population Estimates and Projections: Department of Social and Health Services, Washington State Adjusted Population Estimates, April 1999.

Incidence rates rounded to the nearest whole number.

* Rates cannot be calculated for years with fewer than five cases.

In 1999, the female gonorrhea incidence rate peaked among the 15-19 year old age group at 233 cases per 100,000. After this peak, gonorrhea incidence among females progressively declined with increasing age. Among men, the 1999 gonorrhea incidence rate peaked among 25-29 year olds at 259 cases per 100,000. These cases and rates declined at different rates than the female rates because of a outbreak of gonorrhea in gay men.

Because most gonorrhea cases are symptomatic and seek medical care, reported cases are considered to be an accurate reflection of true disease incidence in the overall population.

Providers in Washington who reported gonorrhea cases in 1999 indicated that 87% of the men were symptomatic for gonorrhea; 49% of the women were symptomatic. Unlike chlamydia there is no widespread screening program for gonorrhea, however, most clinics provide gonorrhea screening at some level and 99% will perform gonorrhea testing if the client is symptomatic.

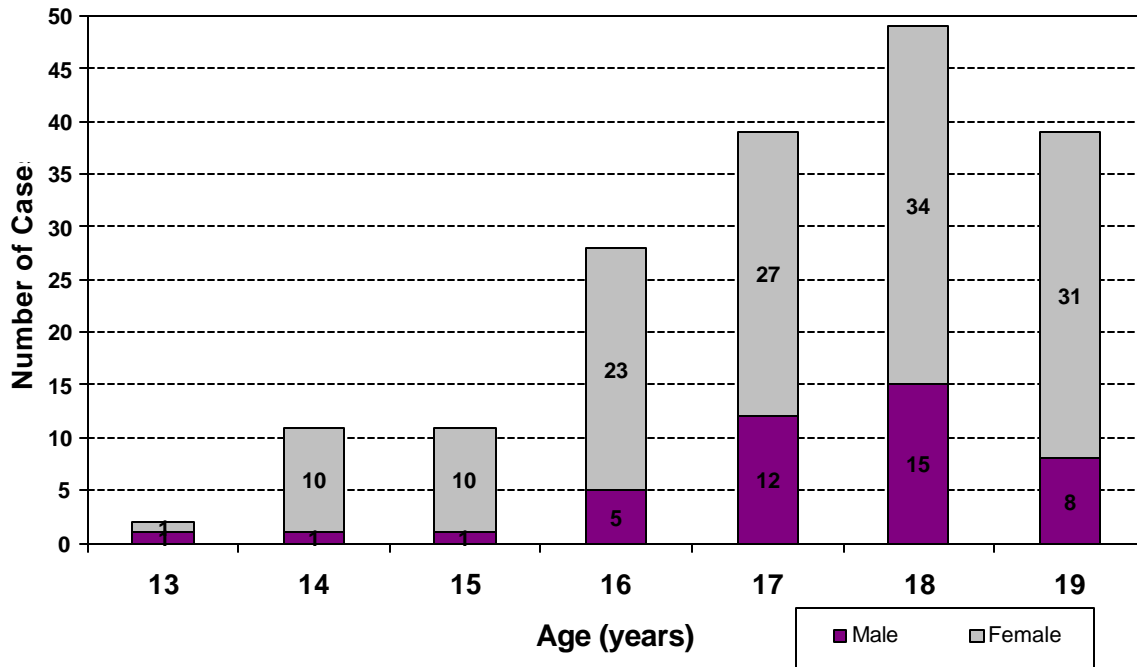
National gonorrhea incidence rates have precipitously declined from 1974 to the present. Paralleling national trends, the Washington State gonorrhea incidence has declined 76% from 156.7 per 100,000 in 1988 to 37.0 per 100,000 in 1999.

Age distribution in Washington State in 1999 showed age-specific rates peaked at 193 per 100,000 in the 15-19 females and peaked at 142 per 100,000 in the 20-24 year old males. Any targeted

intervention for gonorrhea should consider the impact of this disease on different age groups within both genders and direct the prevention message accordingly.

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TEEN (13-19) GONORRHEA CASES -1999



Conclusion

Table 2: Reported Cases of Chlamydia and Gonorrhea by Provider Type, King County, 1999

Provider Type	Chlamydia			Gonorrhea		
	No. of Providers	No. of Cases	Percent of Total Cases	No. of Providers	No. of Cases	Percent of Total Cases
Alcohol/Substance Abuse	1	1	0%	1	1	0%
Blood Bank/Plasma Center	0	0	0%	0	0	0%
Community Health Center	13	131	3%	7	40	4%
Emergency Care (excl. hosp.)	20	104	3%	17	51	6%
Family Planning	16	330	8%	4	18	2%
Health Plan/HMOs	25	218	5%	17	60	7%
HIV/AIDS	1	3	0%	2	3	0%
Hospitals	25	366	9%	19	205	22%
Indian Health	3	28	1%	1	7	1%
Jail/Correction/Detention	6	327	8%	6	54	6%
Job Corps	1	1	0%	0	0	0%
Migrant Health	2	47	1%	1	5	1%
Military	3	9	0%	0	0	0%
Neighborhood Health	7	37	1%	5	8	1%
OB/GYN	29	153	4%	6	12	1%
Other	169	805	20%	86	193	21%
Private Physicians	28	37	1%	10	15	2%
Reproductive Health	11	637	16%	8	60	7%
STD Clinics	7	468	12%	6	179	19%
Student Health	14	247	6%	5	11	1%
TOTAL	381	3,949	100%	201	922	100%

In King County, the Other providers reported the highest number of chlamydia cases. These providers reported 20% of the total. Reproductive Health reported the second highest number of chlamydia cases (16%). Gonorrhea cases (22% of the total) were most frequently reported by Hospitals.

The Healthy People 2010 national objectives for chlamydia incidence are:

Females aged 15-24 attending family planning clinics: 3%. There are 8 Region X Chlamydia Project* Family Planning clinics in King County. The 1999 positivity rate for females was:

Site	Male			Female		
	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
International District	11	3	27.3	424	16	3.8
PP of Western WA-Bellevue	2	0	0.0	1,694	63	3.7
PP of Western WA-Kenmore	0	0	0.0	401	12	3.0
PP of Western WA-Kent Valley	0	0	0.0	945	43	4.6
PP of Western WA-Federal Way	1	0	0.0	1,488	57	3.8
PP of Western WA-Central	7	3	42.9	2,253	94	4.2
PP of Western WA-Totem Lk/Kirkland	0	0	0.0	150	5	3.3
PP of Western WA-University	1	0	0.0	1,377	33	2.4

Females aged 15-24 attending STD clinics: 3%.

Males aged 15-24 attending STD clinics: 3%.

There are 11 Region X Chlamydia Project* STD/Reproductive Health clinics in King County. The 1999 positivity rate was:

Site	Male			Female		
	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Public Hlth-Seattle & King Co-Auburn	177	20	11.3	1,123	67	6.0
Public Hlth-Seattle & King Co-Downtown	56	9	16.1	704	22	3.1
Public Hlth-Seattle & King Co-Eastgate	158	11	7.0	748	25	3.3
Public Hlth-Seattle & King Co-Federal Way	146	24	16.4	1,641	89	5.4
Public Hlth-Seattle & King Co-North	105	12	11.4	1,371	50	3.6
Public Hlth-Seattle & King Co-North Shore	100	9	9.0	953	19	2.0
Public Hlth-Seattle & King Co-Southeast	182	29	15.9	949	49	5.2
Public Hlth-Seattle & King Co-Southeast Kent	175	32	18.3	1,553	115	7.4
Public Hlth-Seattle & King Co-Southwest	164	19	11.6	2,054	109	5.3
Public Hlth-Seattle & King Co-Columbia Hlth Ctr	143	31	21.7	1,520	122	8.0
Public Hlth-Seattle & King Co-Harborview STD	4,762	400	8.4	2,871	164	5.7

Other Region X Chlamydia Project Sites in King County include:

Site	Male			Female		
	# Tests	# Pos	% Pos	# Tests	# Pos	% Pos
Echo Glen Detention (Snoqualmie)	122	2	1.6	114	14	12.3
Cleveland HS Teen Clinic	27	1	3.7	342	19	5.6
Franklin teen Hlth Ctr	6	1	16.7	186	10	5.4
Garfield/Nova Teen Ctr	20	0	0.0	313	23	7.3
Nathan Hale Teen Hlth Ctr	3	0	0.0	95	5	5.3
Rainier Beach Teen Hlth Ctr	22	4	18.2	144	10	6.9
Roosevelt/Marshall Teen Hlth Ctr	17	0	0.0	212	9	4.2
West Seattle/Madison Teen Hlth Ctr	3	0	0.0	126	3	2.4
Seattle University	1	0	0.0	37	1	2.7

The year 2010 Health People national objective for gonorrhea incidence is 19 cases per 100,000. King County is working toward met this goal with the 1999 rate of 54 cases per 100,000.

*For Region X Chlamydia Project Screening Criteria see page 10.

Appendix A: Data Sources, Analyses and Limitations

Cases: The number of cases identified and submitted by providers to local health jurisdictions and forwarded to the Washington State Department of Health, Office of Infectious Disease and Reproductive Health, STD/TB Services.

Population: Denominator population estimates for incidence rates are from 1990-2002 Population Estimates and Projections: Department of Social and Health Services, Washington State Adjusted Population Estimates, April 1999.

Incidence Rates: Incidence rates are calculated as the number of new episodes of a disease (not persons) in a given year divided by the total population (age and sex appropriate) for that year, expressed as a rate per 100,000. Incidence rates allow comparisons between two or more populations by standardizing the denominator and are the most appropriate statistic to use when investigating differences between groups. Rates should not be calculated for incident case totals fewer than five because the rates are unstable.

Data Reporting: Gonorrhea, chlamydia, syphilis, Acute PID, NGU and herpes (initial infection) are reportable diseases to the local health jurisdictions and forwarded to the Department of Health. To be reported and included in surveillance data, disease definition must be met.

Disease Definitions:

- Gonorrhea - isolation of *Neisseria gonorrhea* from a clinical specimen or observation of gram-negative intracellular diplococci in urethral smears or endocervical smears.
- Chlamydia - isolation of *Chlamydia trachomatis* from a clinical specimen by culture or non-culture methods that detect chlamydia antigen or genetic material.
- Syphilis - a complex sexual transmitted disease with a highly variable clinical course. See CDC guidelines for surveillance definition.
- Herpes Simplex (initial infection only) - diagnostic criteria for reporting can be made through clinical observation of typical lesions and/or laboratory confirmation.
- Non-Gonococcal Urethritis (NGU) - presence of at least two of the following features: history of urethral discharge and /or dysuria; presence of purulent or mucopurulent urethral discharge; and/or urethral Gram-stain smear showing 4 or more polymorphonuclear leukocytes (PMNs) per oil immersion field.
- Acute Pelvic Inflammatory Disease (PID) - an acute clinical syndrome unrelated to pregnancy or surgery. A combination of lower abdominal pain; adnexal tenderness; adnexal mass; pain on cervical motion; mucopurulent discharge; and temperature elevation. Patients with a positive test for chlamydia or gonorrhea are reported in those disease categories.
- Chancroid - an STD characterized by painful genital ulceration and inflammatory inguinal adenopathy.
- Granuloma Inguinale (GI) - a slowly progressive ulcerative disease of the skin and lymphatics of the genital and perianal area.

- Lymphogranuloma Venereum (LGV) - characterized by genital lesions, suppurative regional lymphadenopathy, or hemorrhagic proctitis.

The diagnosing practitioner is responsible for providing the case information which includes patient demographics, source of diagnosis, limited clinical information including site of infection and treatment, and date of diagnosis.

Data Strengths: Sexually transmitted disease data may provide more timely information on behavioral trends in the community than diseases with similar modes of transmission particularly HIV/AIDS. There is a high level of participation in the STD surveillance system by private providers of STD services.

Data Limitations: Clinically diagnosed cases of STDs (without laboratory confirmation) may be missed through this surveillance system. Depending upon diagnosing practices, completeness of reporting may vary by source of health care.

Data Biases: Biases could exist in the data due to under-reporting, inability of certain populations to access medical services, error in laboratory reporting, or differential reporting or screening by disease and source of care. However, it is assumed that the number of cases that would fall into these categories is small and normally distributed, thus not significantly impacting the calculated STD rates.

Assumptions: It is assumed that the cases reported from year to year are independent of each other. One violation of this assumption could be if a person who has an STD one year is more likely to have an STD the following year. Also, repeat episodes of the same STD by the same person are not excluded from the numerator count; it is felt that these numbers are not large enough to significantly impact the calculated incidence rates. Finally, we have assumed that all rates follow a chi-square distribution.

Female Selective Screening Criteria in Family Planning and Expansion Sites:

1. Women 24 and under are to be tested when undergoing a pelvic examination or
2. Women of any age who meet one of the following criteria should be screened at any visit if a pelvic exam is performed:
 - a. Cervicitis or signs and/or symptoms of other STD,*
 - b. PID,
 - c. Exposed to CT, GC or NGU in past 60 days,
 - d. New sex partner during past 60 days,
 - e. Two or more sex partners during the past 60 days,
 - f. Pregnant/Currently planning a pregnancy,
 - g. Seeking an IUD insertion,
 - h. Prior + chlamydia or other STD* within the past 12 months.

* STD is defined as Positive for Chlamydia, Gonorrhea, Trichomonas, Syphilis or a Primary case of Herpes or Warts (HPV).